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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,971	06/22/2006	Hiroshi Machida	SH-0064PCTUS	8398

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EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1791

MAIL DATE	DELIVERY MODE
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09/09/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,971	Applicant(s) MACHIDA, HIROSHI	
	Examiner John Hoffmann	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2010 and 23 September 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 8, 10 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Species 1A, B2 and C2 in the reply filed on 8/9/20 is acknowledged.

Claims 8, 10 and 12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/9/2010.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7, 9, 11 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Examiner could find no support for adjusting of the hydrogen and oxygen "during said using". Whereas the specification describes doing the adjusting, there is nothing which suggests it occurs while depositing the glass. One of ordinary skill would assume that the adjustment occurs before the depositing. To put it another way: it would seem that one would determine the optimal process parameters (including

Art Unit: 1791

adjusting the hydrogen and oxygen) before starting the process. Because if one starts out with the wrong temperature and then correct it, the entire preform would be at risk of being defective because of the initial wrong temperature.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-2 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5: it is unclear as to what is meant by the tubes comprising the various gases. The tubes of burners are usually made of steel, glass or some other material. It is unclear if the claim should be interpreted as the gases are flowing in tubular shapes (i.e. in the space between two concentric walls). Or that tubes have gases flowing therethrough.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

Art Unit: 1791

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-3 and 6-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication US2003/0101772, Itoh et al., ('Itoh' hereinafter) in view of Sarkar 5558693 and Ishihara 20030024273.

Itoh discloses the invention as claimed, as indicated in the previous Office action. However, claim 1 now requires "adjusting an amount of hydrogen and oxygen supplied to said burner during using said burner. Itoh does not disclose this. However Sarkar discloses motivations to vary (increase) the temperature by increasing the gas/oxygen flow rate (col. 7, lines 3-29) for the advantages of creating a firmly united initially

Art Unit: 1791

deposited cladding layer, so as to create a very thin transitional layer of substantially constant characteristics and very low moisture content, and to compensate for the increase in surface velocity when as the preform increases in diameter, so as to maintain a constant density of soot. Examiner understands that if the diameter doubles, then the s , and the outer surface area doubles. Thus if a burner is of say 500 watts, to maintain the larger surface area at the requisite temperature, one has to increase the amount of heat supplied to the surface. A doubling of surface area would have a doubling of heat loss.

Ishihara also discloses further reasons why one would be motivated to adjust the hydrogen/ oxygen rates (see [0003] [0008] [0009] [0060])

Thus it would have been obvious to increase the gas flows in the Itoh method, for the reasons set forth in Sarkar and/or Ishihara.

As for claim 2, Itoh teaches a glass base material for optical fiber made of the porous glass base material obtained according to claim 1, wherein said porous glass base material is dehydrated, sintered, and transformed into clear glass (paragraph [0029]).

Claim 3 requires that the target "is displaced". There is no step of 'displacing' being claimed. Nor is there any disclosure of any displacing. Thus the plain meaning of "is displaced" applies. The target is clearly displaced from the burner, since they are not in the same location.

Claim 6: requires a rate of 2040-2360 g/hour. Applicant discloses the use of multiple burners (e.g. spec page 5, line 15), Thus it is not reasonable to assume that claim 6 requires the deposition rate is the rate for a single burner. Ishihara discloses a gang of three burners at figure 1. It would have been obvious to use as many burners as needed (duplication of parts), depending upon the size of the preform desired –and thus obvious to use whatever the resultant deposition rate from the use of the burners. In other words: one can double a deposition rate by doubling the number of burners.

Claim 11 would have been obvious for the same reasons.

From MPEP 2144.04

A. Changes in Size/Proportion

In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).

In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

From MPEP 2144.04

B. Duplication of Parts

In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) (Claims at issue were directed to a water-tight masonry structure wherein a water seal of flexible material fills the joints which form between adjacent pours of concrete. The claimed water seal has a "web" which lies ** in the joint, and a plurality of "ribs" ** >projecting outwardly from each side of the web into one of the adjacent concrete slabs. <The prior art disclosed a flexible water stop for preventing passage of water between masses of concrete in the shape of a plus sign (+). Although the reference did not disclose a plurality of ribs, the court held that mere duplication of parts has no patentable significance unless a new and

Art Unit: 1791

unexpected result is produced.).

Claim 7: see claim 2 and paragraphs [0019] and [0023] discloses "more preferably 650C or more" for the starting temperature and "more preferably 900 to 1150" for the final temperature. Thus Itoh is suggestive of a difference of 250-500 C, which has a significant overlap with the claimed 200-400C. It would have been obvious to perform routine experimentation to determine the optimal temperatures, given that Itoh discloses that temperature is a result -effective variable.

Alternatively: it would have been obvious to use the lowest temperatures of those most preferred by Itoh, because it requires less energy to use lower temperatures. Thus with 650 and 900 C, the difference would be 250C.

4. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication US2003/0101772, Itoh, Ishihara 20030024273 and Sarkar 5558693 and as applied to claim 1, and further in view of Suda 4801322 and Takimoto 4661140

Itoh does not disclose the type of burner used. Suda discloses that concentric multitube burners increases the deposition rate (col. 2, lines 35-43). It would have been obvious to use multitube burner in the Itoh process, since gives a high deposition rate.

Takimoto is cited as disclosing such burners are "widely used" (col. 1, lines 12-13).

Claim 5 requires the burner have 5 tubes. The claim also specifies that the tubes comprise gases. However there is no requirement as to when the tubes have the gases. One could interpret the claim as requiring the gases throughout the entire process. Or one could interpret the claim as having the gases for any period of time - however brief. Or one could interpret the claim as being limited to having the gases throughout the entire "using" step. Since the Office uses the broadest reasonable interpretation standard, Examiner is interpreting claim 5 as only requiring that the gases be present for some period of time (however brief). The claims do not require a flowing of the gases. 25 would be the first tube that has oxygen and silicon tetrachloride in it (see figure 5 and col. 3, line 23) . 27 is the third tube and 29 is the fifth tube. As to the second and 4th tube: it would have been obvious to shut the gas flows off after the material is deposited. It would have been further obvious to have the burner then exposed to air, which would inherently diffuse or otherwise flow into all of the other burner tubes. Likewise, one would expect that before the gases flow through the burner, that there was air in the burner. Nitrogen is a major component of air. Thus any of the remaining tubes could be the second and fourth tube.

Claims 9 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication US2003/0101772, Itoh, Ishihara 20030024273 and Sarkar 5558693 and as applied to claim 1, and further in view of Moltzan 3565345.

Itoh does not disclose the deposition efficiency. Moltzan is cited as evidence that it has been known for 35 years prior to applicant's invention that efficiencies of 52 %

Art Unit: 1791

and 58% (col. 6, lines 11 and 36). Examiner also notes that Moltzan also discloses efficiency as high as 78% (col. 7, line 15). Col. 5, lines 28-33 of Moltzan discloses adjusting various parameters to get the best performance of the torch. Thus it would have been obvious to have a efficiency within the claimed range, depending upon what parameters are optimal for a given desired process result.

Response to Arguments

Applicant's arguments with respect to claims 1-2 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suto, Tandada, Cavender, Andrejco and Fanucci are cited as being of general interest.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 1791

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Thursday, roughly 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Daniels can be reached on 571-272-2450. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Hoffmann

Application/Control Number: 10/583,971
Art Unit: 1791

Page 11

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Art Unit 1791

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